

ABSTRACT

A low alloy steel, characterized by consisting of, by mass %, C:0.2-0.55%, Si:0.05-0.5%, Mn:0.1-1%, S:0.0005-0.01%,
5 O(Oxygen):0.0010-0.01%, Al:0.005-0.05%, Ca:0.0003-0.007%,
Ti:0.005-0.05%, Cr:0.1-1.5%, Mo:0.1-1% and Nb:0.005-0.1%, and the
balance Fe and impurities; and also characterized by the impurities
whose contents are restricted to $P \leq 0.03\%$ and $N \leq 0.015\%$; and
further characterized by containing composites of inclusions of not
10 greater than $7\mu\text{m}$ in major axis with appearance frequency of not less
than 10 pieces of composites per 0.1mm^2 of the steel cross section,
wherein the composite comprises an outer shell of carbonitride of Ti
and/or Nb surrounding a nucleus of oxysulfide of Al and Ca.

The low alloy steel suppresses pitting caused by inclusions and
15 suppresses SSC induced by pitting.